

Message

From: Smith, Lem O. [lem.smith@squirepb.com]
Sent: 9/22/2017 12:45:24 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Fwd: Administrator's Internal Meeting Request Form.docx
Attachments: Administrator's Internal Meeting Request Form.docx; ATT00001.htm

Ryan, FYI.

Hope you are doing well.

Best,
Lem

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Newberry, Edward" <edward.newberry@squirepb.com>
Date: 9/21/17 6:35 PM (GMT-07:00)
To: hupp.millan@epa.gov
Cc: "Smith, Lem O." <lem.smith@squirepb.com>, "Winters, Karen A." <karen.winters@squirepb.com>
Subject: Administrator's Internal Meeting Request Form.docx

Millan,

Per our discussion. Lem Smith is also reaching out to Ryan about this. Thanks for your help!

Ed

Edward J. Newberry
Global Managing Partner
Squire Patton Boggs LLP
2550 M Street, NW
Washington, DC 20037

Ex. 6 o
c

46 Offices in 21 Countries

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#US



Meeting Request Form for Administrator Scott Pruitt

Today's Date: 9/21/17

Requesting Office: Office of the Administrator

Title of the Meeting: Formaldehyde Manufacturers

Purpose: Discuss IRIS Assessment of Formaldehyde

Role of the Administrator: Provide direction to ORD/NCEA/IRIS

Background: In 2012, the National Academy of Sciences issued a harshly critical peer review of the previous draft of the IRIS assessment of formaldehyde, making significant recommendations for improvements for that review and for the overall IRIS program. The revised IRIS assessment must reflect a thorough and objective review of all the relevant scientific data.

Last possible date for the meeting: Meeting before any action is taken regarding formaldehyde recommendations.

Is the meeting urgent and if so why?: Yes, the draft is ready for internal agency review and comment.

Requested Time Length: 30 minutes

EPA Staff (Required): No

EPA Staff (Optional): At EPA discretion, Samantha Dravis, Richard Yamada

External Participants: Ed Newberry, Squire Patton Boggs, the CEOs and/or the COOs of Hexion, Celanese and Georgia Pacific and other representatives of these companies, and Cal Dooley, American Chemistry Council.

Teleconference Required?: No

Video Conference Required?: *(If so please provide the conference room name to be used for video connection)* No

Point of Contact for the Meeting: Edward J. Newberry, Partner, Squire Patton Boggs (US) LLP:
edward.newberry@squirepb.com, **Ex. 6**

NOTE: Meeting request forms should be submitted to [[HYPERLINK "mailto:scheduling@epa.gov"](mailto:scheduling@epa.gov)], with a copy to Aaron Dickerson at [[HYPERLINK "mailto:dickerson.aaron@epa.gov"](mailto:dickerson.aaron@epa.gov)], and the AO Special Assistant who covers your office. All briefing material must be sent to your AO Special Assistant by 3:00 pm two days before your meeting, or to OCIR 48 hours in advance. If briefing materials are not submitted on time, we may need to reschedule your briefing.

Message

From: Annie Snider [asnider@politico.com]
Sent: 7/5/2018 4:29:54 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Politico inquiry: formaldehyde assessment

Ryan -- Annie Snider from Politico here. I've been in touch with your press shop (statement from them below) but wanted to personally give you a heads up & chance to weigh in on a story we're running later today or tomorrow morning about the IRIS formaldehyde assessment.

I've got 2 sources -- a current & a former career official -- who say politicals, including you, are "stonewalling" the assessment, keeping it from going through internal review processes and thus being made public. They laid out several scenarios where key briefings for the air office were cancelled, and said pains were taken to keep things from being put in writing. They say the assessment has been complete since last fall, and at a January EPW hearing Administrator Pruitt said that it was his understanding that the assessment was complete. The sources say the assessment finds health risks, including leukemia, at very low levels of exposure that most Americans are exposed to thru daily life. They also said that other IRIS assessments are being slow-walked or undermined.

Here's what your press shop got me:

"EPA continues to discuss this assessment with our Agency program partners and have no further updates to provide at this time. Assessments of this type are often the result of needs for particular rulemakings and undergo an extensive intra-agency and interagency process. Mr. Yamada and Mr. Jackson have not cancelled briefings on assessments or during the IRIS process, and in fact have requested briefings. The National Academy of Science and Congress in legislative reports have for years been highly critical of EPA's previous assessments involving formaldehyde." - EPA Spokesperson

On background:

Nancy Beck is the Deputy Assistant Administrator for the Office of Chemical Safety and Pollution Prevention. She does not lead, direct, or make decisions for the IRIS program, which is in the Office of Research and Development.

Let me know if you want to weigh in. Thanks --

Annie Snider
Reporter
POLITICO
asnider@politico.com

Ex. 6	desk
	cell
@AnnElizabeth18	

Message

From: D'Amico, Louis [DAmico.Louis@epa.gov]
Sent: 5/12/2016 10:07:32 PM
To: Ross, Mary [Ross.Mary@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: Edits to ACC response?
Attachments: ACC Draft Letter on NAS Recommendations for Formaldehyde - Final 04 13 1....pdf; ACC FA Response - BurkeKadeli_draft1.docx

Hi everyone,

Attached is first draft of a response to ACC (that will ultimately come from the IOAA) regarding the formaldehyde assessment. David,

Deliberative Process / Ex. 5

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Thanks all!

-Lou

Louis D'Amico, Ph.D.
Acting Communications Director
National Center for Environmental Assessment | U.S. EPA - Office of Research and Development
Mail Code 8601P | 1200 Pennsylvania Ave, NW | Washington, DC 20460
Physical/Overnight Delivery Address: U.S. EPA | Two Potomac Yard (North Building), N-7651 | 2733 S. Crystal Drive | Arlington, VA 22202

Office: 703-347-0344 | Mobile: **Personal Matters / Ex. 6** Fax: 703-347-8689 | email: damico.louis@epa.gov

Message

From: Kraft, Andrew [Kraft.Andrew@epa.gov]
Sent: 4/26/2016 3:09:56 PM
To: Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]
CC: Glenn, Barbara [Glenn.Barbara@epa.gov]; Perovich, Gina [Perovich.Gina@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]
Subject: RE: updated draft slides for Kavlock briefing
Attachments: Kavlock_Apr2016_bckgrnd.docx; HCHOBriefKavlock042816.pptx

Hi David,

We decided to cut a couple slides, and added some minimal text.
Please find the updated slides and background materials attached.

-Barbara and Andrew

From: Bussard, David
Sent: Tuesday, April 26, 2016 10:28 AM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>
Subject: RE: updated draft slides for Kavlock briefing

Barbara and Andrew,

Vince told me he is okay with the slides.

If you have any other changes, let he and I know asap, so that he does not send the wrong version. He plans to send to Kavlock by 2 pm today.

Deliberative Process / Ex. 5

David

From: Kraft, Andrew
Sent: Monday, April 25, 2016 5:09 PM
To: Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>
Subject: RE: updated draft slides for Kavlock briefing

Thank you, David.

Please see the attached draft background materials for Bob K.

-Barbara and Andrew

From: Bussard, David
Sent: Monday, April 25, 2016 4:28 PM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Perovich, Gina

<Perovich.Gina@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>

Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>

Subject: RE: updated draft slides for Kavlock briefing

Barbara and Andrew,

I like the revisions.

It is still potentially a lot to cover, but I think if you are clear what you want to cover if you are short on time and what you can cover if there is more time or Bob K wants to pursue a point, I think this can work.

David

From: Kraft, Andrew

Sent: Monday, April 25, 2016 4:12 PM

To: Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>

Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>

Subject: updated draft slides for Kavlock briefing

Hi all,

Please see the attached revised slide deck for the Kavlock briefing this Thursday and let us know if you have any comments.

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Thanks!

-Barbara and Andrew

From: Itkin, Cheryl [Itkin.Cheryl@epa.gov]
Sent: 9/22/2016 4:46:10 PM
To: Bussard, David [Bussard.David@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]
CC: Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]
Subject: RE: Formaldehyde on the Public Peer Review Agenda

David - thank you, that sounds good. I'll use the wording you provided.

For now, I am providing a note and my checklist to disperse some of the mystery about the EPA Peer Review Agenda (PRA) – I think this may shed some light on your questions and provide some answers. I'll revisit your questions soon but I thought this may be good for now.

All federal agencies are required to “post on their Web sites a **Peer Review Agenda that includes all planned and ongoing** influential scientific information subject to the Bulletin's peer review requirements.” The EPA Peer Review Agenda (PRA), https://cfpub.epa.gov/si/si_public_pr_agenda.cfm, has a main listing of influential products that includes those planned (approaching peer review in the next year) and ongoing (currently in the peer review cycle).

What are the endpoints for the peer review cycle? **EPA's peer review cycle for an influential product begins with the Peer Review Plan and ends with the Agency Response.** While OMB considers the peer review complete when the final peer review report is done, EPA considers peer review complete when the Agency Response to the peer review report is done. So, each product stays on the PRA main listing until the Agency Response is posted or reported or noted in the Science Inventory record. Within 30 days of completing the record on the PRA, the system automatically moves it to the PRA “archive” section called **Influential Products with Completed Peer Reviews**. You can access the archive section by going to the box in the right margin of the site and scrolling to the bottom of the list of Annual Peer Review Reports (to OMB) or you can go direct to (https://cfpub.epa.gov/si/si_public_pr_agenda_archive.cfm). Feel free to look up older completed peer reviews.

For each product, every step in the peer review cycle is documented on the peer review agenda. I update along the way (well, I should be), it's more likely that I perform the update twice a year - doing catchup. Typically, I link to what the SAB and Maureen post online. It is a tedious process to collect info, tag, enter metadata and link or load these items but it is required by the agency and OMB.

I'm sharing **my checklist** below. It is based on established milestones that trigger what I need to do and when I need to do it – these are my steps for updating the Science Inventory and publishing the info through the Peer Review Agenda website at https://cfpub.epa.gov/si/si_public_pr_agenda.cfm.

Step 0: What triggers starting the peer review cycle and getting into the queue for the Peer Review Agenda?

- Annual Data Call from OSA to update the PRA – around October, seems to get earlier each year
- (IRIS Step 4a) - the public comment ERD is released. If missed, then post within 3 to 6 months prior to the panel meeting.
- SCOUT or equivalent tracking system
- someone alerts me that a HISA or ISI draft product (ie. ISA, HF, etc...) will be completed and released soon
- Annual Call for Nominations to the SAB – if not already alerted from other triggers

Step 1: - A) Approve Peer Review Decision Summary Memo (internal documentation template available online, completed by the project lead and signed by the Division Director, Peer Review Coordinator, and Center Director).

- **B) Establish Science Inventory Record** (coordinate with Maureen and Marieka) **and create placeholder on Peer Review Agenda** (PRA plan is under development, gather info and get approvals)

Step 2: Post Public Peer Review Plan on PRA with 30-day public comment period on the peer review plan (includes completing part 1 of OMB questions)

Step 3: ERD and Charge are Posted online by SAB or NCEA Webmaster, may be announced in a FRN: Link and enter metadata for Peer Review Charge and ERD

Step 4: Peer Review Panel Meeting Date is Announced in a FRN: Enter Actual date of Peer Review Panel Meeting in key SI date field

Step 5: Peer Review Report is posted online by SAB or NCEA Webmaster: Link and enter metadata for Peer Review Report, (complete key SI date fields), Collect info from the Peer Review Leader or DFO (complete part 2 of OMB questions)

Step 6: Agency Response is posted online by SAB or NCEA Webmaster: Link and enter metadata for Agency Response to the Peer Review Report. If no formal response is posted or incorporated in a final product, or if the Agency decides to revise the product and submit the product for another round of peer review > create a note and post to complete the peer review cycle for the ERD that was peer reviewed. Peer review for that iteration of the product is considered complete.

Does this help?

Cheryl

From: Bussard, David

Sent: Thursday, September 22, 2016 8:26 AM

To: Itkin, Cheryl <Itkin.Cheryl@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>

Cc: Birchfield, Norman <Birchfield.Norman@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>

Subject: FW: Formaldehyde on the Public Peer Review Agenda

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David

PS: Some communication points generally: Not urgent, but a record of what I found when looking for the IRIS Formaldehyde "landing page".

More than you want to deal with right now, NCEA may want to think about this broadly at some point. I believe Maureen Johnson has talked about "landing pages" for each chemical.

I see there is an EPA page on "formaldehyde", that currently does not have anything about IRIS: <https://www.epa.gov/formaldehyde>, but has a page on toxicity on which one can find a link titled "Status of IRIS toxicological review of formaldehyde (inhalation) EPA is currently revising its IRIS assessment of formaldehyde to address the 2011 National Academy of Sciences peer review recommendations. This assessment addresses both noncancer and cancer human health effects that are relevant to assessing the risks from chronic inhalation exposure to formaldehyde. When finalized, the updated toxicological profile for formaldehyde will appear in the IRIS database."

That in turn goes to a webpage that I'd prefer had a different title. It's current title is "IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010)". https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614

And, on that, if I click on "IRIS CHEMICAL PAGE" I can find a page that is labeled "Landing Page", https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=419, that has as status: Status: Formaldehyde is in step 4 at this time; see Quick Check." It in turn looks like it should be a link, but if so, it does not seem to lead anywhere.

David

From: Itkin, Cheryl

Sent: Wednesday, September 21, 2016 5:56 PM

To: Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>

Subject: Formaldehyde on the Public Peer Review Agenda

Hi David and Scot,

I need 2 minutes of your time. I'm cleaning up the Science Inventory/Peer Review Agenda website. OSA and OMB are the main audience and the public may monitor this site as well. The peer review information for the **Formaldehyde assessment (2010)** still appears on the Agency's public peer review agenda website. I'd like to closeout the record so it disappears from the Peer Review Agenda website to make way for the next formaldehyde peer review but the system requires me to make a statement or link to an **Agency response** to the peer review that occurred.

Please let me know if its ok for me to enter this simple statement:

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Deliberative Process / Ex. 5 or if you want me to redirect by linking to a document already on the web.

Here is how it currently appears on the list online at https://cfpub.epa.gov/si/si_public_pr_agenda.cfm

Office of Research and Development

Products

- Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources (External Review Draft) (PUBLISHED REPORT)
- IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010) (IRIS ASSESSMENT)

If you click on the title or go direct to https://cfpub.epa.gov/si/si_public_pra_view.cfm?dirEntryID=223614 you see this (the last update years ago was the link added to the NAS report at nap.edu) :

The draft Toxicological Review of Formaldehyde-Inhalation Assessment provides scientific support and rationale for the hazard and dose-response assessment pertaining to chronic inhalation exposure to formaldehyde.

Contact: Technical Information Staff (703) 347-8561, nceadc.comment@epa.gov

Office: OFFICE OF RESEARCH AND DEVELOPMENT

Full Record ID: [223614](#)

You may choose to be added or removed from the document change notification list:

[Request Notification](#)

[Remove Notification](#)

File	Type	Version	Public Comment Period	
			Begin	End
PEER REVIEW PLAN 223614.PDF (2 pp, 31K, About PDF)	Peer Review Plan	1	not available for comment	
FORMALDEHYDE - CHARGE TO THE NAS PANEL.PDF (2 pp, 24K, About PDF)	Peer Review Charge	1	not available for comment	
NAS FINAL REPORT.HTM	Peer Review Report	1	not available for comment	
IRIS FORMALDEHYDE ERD 61710.PDF (1043 pp, 7929K, About PDF)	Product		not available for comment	

Thanks,
Cheryl

Message

From: D'Amico, Louis [DAmico.Louis@epa.gov]
Sent: 5/11/2016 6:45:06 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: FYI. Latest ACC letter on FA
Attachments: ACC Draft Letter on NAS Recommendations for Formaldehyde - Final 04 13 1....pdf

Attached.

Louis D'Amico, Ph.D.
Acting Communications Director
National Center for Environmental Assessment | U.S. EPA - Office of Research and Development
Mail Code 8601P | 1200 Pennsylvania Ave, NW | Washington, DC 20460
Physical/Overnight Delivery Address: U.S. EPA | Two Potomac Yard (North Building), N-7651 | 2733 S. Crystal Drive | Arlington, VA 22202

Office: 703-347-0344 | Mobile: Personal Matters / Ex. 6 | Fax: 703-347-8689 | email: damico.louis@epa.gov

Message

From: Kopylev, Leonid [Kopylev.Leonid@epa.gov]
Sent: 6/9/2016 7:03:51 PM
To: Glenn, Barbara [Glenn.Barbara@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]; Morozov, Viktor [Morozov.Viktor@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]
Subject: marginal comments main text (RFc)
Attachments: Formaldehyde_draft Tox Review_ERC_May2016.lk.docx

Barbara,

Deliberative Process / Ex. 5

Hope this helps and please let me know if any of my comments are unclear.

Thanks,
Leonid

From: Glenn, Barbara
Sent: Thursday, June 09, 2016 2:11 PM
To: Kopylev, Leonid <Kopylev.Leonid@epa.gov>; Bateson, Thomas <Bateson.Thomas@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>
Subject: RE: intermediate report on non-cancer formaldehyde analyses and also comment on study tables

Hi Leonid,
Thank you very much. We appreciate your careful feedback.
-Barbara

From: Kopylev, Leonid
Sent: Thursday, June 09, 2016 11:20 AM
To: Bateson, Thomas <Bateson.Thomas@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>
Subject: intermediate report on non-cancer formaldehyde analyses and also comment on study tables

Tom:

Deliberative Process / Ex. 5

Hope this intermediate report helps!
Leonid
AWL till Tuesday, in office next Wednesday

From: Glenn, Barbara
Sent: Friday, June 03, 2016 2:45 PM
To: Jones, Samantha <Jones.Samantha@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Hogan, Karen <Hogan.Karen@epa.gov>; Kopylev, Leonid <Kopylev.Leonid@epa.gov>
Subject: Documentation for derivation of BMC and BMCL for formaldehyde noncancer endpoints

Hi Samantha,

Deliberative Process / Ex. 5

Thank you for reviewing formaldehyde!

Barbara and Andrew

Message

From: Bussard, David [Bussard.David@epa.gov]
Sent: 9/14/2016 5:50:21 PM
To: Birchfield, Norman [Birchfield.Norman@epa.gov]
CC: Jones, Samantha [Jones.Samantha@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: FW: IRIS assessment for formaldehyde
Attachments: Formaldehyde and Paraformaldehyde PWP 9-14-16.docx

Norm,

I spoke with Mike Slimak and Ted Berner.

Mike would like us to limit our time investment, but he is okay with our giving it a quick read.

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Let me know if other issues arise with a quick read that you, Barbara or Andrew think we should point out.

David

From: Bussard, David
Sent: Wednesday, September 14, 2016 9:49 AM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>
Cc: Jones, Samantha <Jones.Samantha@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>
Subject: FW: IRIS assessment for formaldehyde

Barbara, Andrew and Norm,

Please carefully review their discussion of IRIS, and their timeline. Are their statements about utilizing IRIS consistent with a realistic timeline for a final assessment?

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Deliberative Process / Ex. 5

David

From: O'Neill, Sandra
Sent: Wednesday, September 14, 2016 8:33 AM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Bussard, David <Bussard.David@epa.gov>
Cc: Gayoso, Jose <Gayoso.Jose@epa.gov>
Subject: FW: IRIS assessment for formaldehyde

Andrew, et al.,

AD is nearing completion of the Formaldehyde and Paraformaldehyde Preliminary Work Plan. Our goal is to complete this workplan by the end of next week. We mention that we will include the IRIS review and determine whether new endpoints would be selected, incorporating this into our registration review. I've attached a draft of the document, can you let me know if you have any comments by next Tuesday, March 20? And also, if you have any questions on the document.

Thanks in advance.

Sincerely,

Sandra O'Neill
Chemical Review Manager
OCSPP/OPP/AD
703 347 0141

From: Kraft, Andrew
Sent: Tuesday, August 16, 2016 4:39 PM
To: O'Neill, Sandra <O'Neill.Sandra@epa.gov>
Cc: McMahon, Tim <McMahon.Tim@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: RE: IRIS assessment for formaldehyde

Hi Sandra,

Yes, Barbara and I are working on the IRIS formaldehyde assessment (we are the assessment managers). We do not currently have a publically available, up-to-date schedule for release of the document for peer review, nor for finalization after peer review. Thus, we do not have a date that could be released through your workplan.

Note that prior to release of the assessment for peer review (which can take up to several years to complete, depending on the peer review mechanism), we still have to complete internal EPA clearance of the document, Interagency review by federal partners, and release of the assessment for comments from the general public.

Barbara, myself, and/ or Norm (our branch chief) can address any questions you may have, and, internally, we can provide you with more details on the assessment's progress.

Best,

Andrew

From: O'Neill, Sandra
Sent: Tuesday, August 16, 2016 3:38 PM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>
Cc: McMahon, Tim <McMahon.Tim@epa.gov>
Subject: IRIS assessment for formaldehyde

Hi Andrew,

I'm AD's CRM working on the formaldehyde and paraformaldehyde registration review case. We're publishing a Preliminary Work Plan for this case by the end of September and also providing a brief presentation to OPP's front office at the end of this month on this case. I understand you're working on the IRIS assessment? Do you have a timeline in place for when the peer review might be completed, or know who I might contact for this information?

Thanks very much,

Sandra O'Neill

Chemical Review Manager
Regulatory Management Branch 2 II Antimicrobials Division II OPP/OCSP II U.S. EPA II (703) 347-0141

Message

From: Bussard, David [Bussard.David@epa.gov]
Sent: 5/11/2016 6:40:34 PM
To: Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]
Subject: FA discussion of uncertainty
Attachments: DBcmts(ver4) on FormaldehydeTRdraft050616.docx

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David A Bussard
Director, Washington Division
National Center for Environmental Assessment, NCEA
ORD, USEPA

Message

From: Bussard, David [Bussard.David@epa.gov]
Sent: 5/10/2016 6:02:04 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
CC: Birchfield, Norman [Birchfield.Norman@epa.gov]
Subject: FA LHP calculation text
Attachments: DBcmts(ver3) on FormaldehydeTRdraft050616.docx

It could be because I am tired today, but

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I'd like to talk about these after you and/or Jennifer have taken a look. I put down far more "red ink" than I normally like to and I realize there are often multiple ways to address when something is not clear to a reader.

David A Bussard
Director, Washington Division
National Center for Environmental Assessment, NCEA
ORD, USEPA

Message

From: Lee, Janice [Lee.JaniceS@epa.gov]
Sent: 8/26/2016 8:37:23 PM
To: Glenn, Barbara [Glenn.Barbara@epa.gov]; Cote, Ila [Cote.Ila@epa.gov]; Bussard, David [Bussard.David@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: RE: returning your call, and a question
Attachments: Formaldehyde_draft Appendices_ERC_May2016.docx; Formaldehyde_draft Tox Review_ERC_May2016.docx

Yes, I do have the formaldehyde draft. and have attached it here.

Janice

From: Glenn, Barbara
Sent: Friday, August 26, 2016 4:31 PM
To: Cote, Ila <Cote.Ila@epa.gov>; Bussard, David <Bussard.David@epa.gov>
Cc: Lee, Janice <Lee.JaniceS@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: RE: returning your call, and a question

Hi Ila,
I believe that Janice has the formaldehyde draft and might be able to send it to you. If not, let me know and I'll send it on Monday.
-Barbara

From: Cote, Ila
Sent: Friday, August 26, 2016 4:22 PM
To: Bussard, David <Bussard.David@epa.gov>
Cc: Lee, Janice <Lee.JaniceS@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: RE: returning your call, and a question

All of these numbers work but the 202 number is the best chance. Im switch over to working at home most of the time but still go into the office (the other two numbers). Its unpredictable where Ill be, so cell is the best.

Im no longer the project lead, just the task lead. In standard fashion its hard to get someone to step in. Id help but Im swamped right now with iAs and end of the year clearance.

Deliberative Process / Ex. 5

From: Bussard, David
Sent: Friday, August 26, 2016 10:49 AM
To: Cote, Ila <Cote.Ila@epa.gov>
Subject: returning your call, and a question

First, tried call call you on Personal Matters / Ex. 6 Is there a better number to use? I have two Personal Matters / Ex. 6

Personal Phone / Ex. 6

Second, Chris Saint has you down as “Project Lead” for Project 8 of HHRA. Is that valid? (I think Cinci has strongly resisted filling that role.)

Third, re systematic review:

- We circulated to the “ERC” the Formaldehyde Assessment, which contains descriptions of the systematic review approach taken. But, maybe you don’t have that? If you don’t have it, Barbara Glenn or Andrew Kraft can send it to you, and tell you which sections to focus upon.
- I assume the “Systematic Review” team already have it, but I can check with Barbara and Andrew.

Deliberative Process / Ex. 5

David A Bussard
Director, Washington Division
National Center for Environmental Assessment, NCEA
ORD, USEPA

Message

From: Kraft, Andrew [Kraft.Andrew@epa.gov]
Sent: 3/11/2016 8:42:06 PM
To: Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: main document
Attachments: FormaldehydeTRdraft031016.docx

Hi Barbara,

I don't think I am going to get to the Appendix today, so here are my edits to the main document (not in track changes). I went through what John sent and "finalized" changes, and **Deliberative Process / Ex. 5**

Deliberative Process / Ex. 5

Have a fun week without me. I probably won't be on this email much, so if you need something quickly please call or email me at my gmail address: **Personal Matters / Ex. 6**

Thanks and enjoy the new corner cubicle!

-Andrew

Message

From: Chen, Anna [chen.anna@epa.gov]
Sent: 8/26/2016 7:39:57 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]
CC: Glenn, Barbara [Glenn.Barbara@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]
Subject: RE: JJV comments on formaldehyde... finally.. through page 249
Attachments: formaldehyde with comments 082616.docx

Hello!

I have attached the formaldehyde review with comments. It's saying the appendices file is too big, so I will try to send it in another email.

When I combined the reviews, sometimes the tables got a bit funny. For example, Table 1.1.2.-7 on page 104--- each time I combined the papers, the **Deliberative Process / Ex. 5** I was apprehensive to delete anything to clean it up on my own. I think that somewhat accounts for the added page length.

Comments I had to manually input are labeled with my name; the name of the reviewer is within the comment box. If you want to see comments from only Vandenberg, for example, I would select only his name and my name (and possibly "unlabeled") from the Review tab > "Show Markup" > "Specific People". You can also ctrl + F "Vandenberg" to scroll through his comments that I manually entered. Some, like Flowers, will not be listed as "Specific People" because they only had email comments I had to manually enter, so ctrl + F is the best way to find their comments that are posted under my name. This was the best I could do! I can't put in comments under anyone else's profile but mine.

Inputting comments manually (especially the emailed comments) did take a lot of time. I tried to put them where I thought the reviewer was referring to, but if you have any questions once you review them, please let me know. I can try to clarify.

Let me know if there is anything else I can do for you.

Best,
Anna

From: Kraft, Andrew
Sent: Thursday, August 25, 2016 3:00 PM
To: Chen, Anna <chen.anna@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>
Subject: RE: JJV comments on formaldehyde... finally.. through page 249

Deliberative Process / Ex. 5

Thanks, Anna!

From: Chen, Anna
Sent: Thursday, August 25, 2016 2:24 PM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>
Subject: RE: JJV comments on formaldehyde... finally.. through page 249

Hi All,

Update: I have combined all of the comments, but now I am going to go through the review to ensure that they didn't get deleted during the process. This may take some time... but I will go through it to the best of my ability and send you what I have tomorrow.

One question:

Deliberative Process / Ex. 5

can't find where those comments should go.

Let me know if you have any more comments you want me to add/combine/merge!

From: Kraft, Andrew

Sent: Monday, August 22, 2016 11:18 AM

To: Chen, Anna <chen.anna@epa.gov>

Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Walker, Teneille <Walker.Teneille@epa.gov>

Subject: Fw: JJV comments on formaldehyde... finally.. through page 249

Hi Anna,

I hate to do this, but we just received another set of comments from John Vandenberg. It looks like he only had comments through page 250, so maybe it will be easy to integrate these comments into the compiled draft you are working with? Please let us know how you think this affects your timeline.

Thanks,
Andrew

From: Vandenberg, John

Sent: Saturday, August 20, 2016 10:02 AM

To: Kraft, Andrew; Glenn, Barbara; Bussard, David; Jones, Samantha

Subject: JJV comments on formaldehyde... finally.. through page 249

All,

I must apologize profusely for not sending the comments on the draft much earlier – like more a month ago. I hope these may still be of some value. Its clear that a terrific effort has been put into this draft, to evaluate evidence and convey information as thoroughly yet concisely, and clearly as possible.

I went back through my files to find my comments on the draft, and added some edits to clarify my first run at it, hoping I could actually finish it, but I only made it through about page 250. Sorry. I also have comments on the preface that remain handwritten and too difficult to read, even for myself, that I'll try to transpose onto the draft I have. It may be that you have a newer version of the preface that I should review instead – not sure.

I'm going on vacation as soon as my wife returns in a few minutes and I'm sending this to partially clear my conscience! I'll be back in the office on Aug 29.

John

John Vandenberg

National Program Director, Human Health Risk Assessment Program

Division Director, National Center for Environmental Assessment
U.S. Environmental Protection Agency
B243-01
Research Triangle Park, NC 27711

From: Bussard, David [Bussard.David@epa.gov]
Sent: 1/12/2016 10:33:05 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: FA: my review
Attachments: Jan 12 DB notes as to Key Issues re Dec 2015 draft.docx; Jan 12 DB cmts on FormaldehydeTRdraft12215.docx; Jan 12 DB cmts on NASPublic Comments Response_01042016.docx

Barbara and Andrew,

As you know, I think this is coming along really well.

I think I may have hit my near-term exhaustion for close reading. So, let's consider this the full extent of my current review, unless there are some portions you would flag to me that I should look at.

Deliberative Process / Ex. 5

I am happy to discuss any of these you want to discuss, and to do it just with you or to also discuss with others. Whatever would be helpful.

I almost never consider any text I write as being definitively what I want to go into the assessment. Often, it is just easier to try to jot down the kind of response or kind of text that might flow as an argument than it is to figure out how to describe why something seems like it might be improved. But, I often don't have the details in my head and I can recall things incorrectly. If I get something wrong, correct it. If it is unclear why I suggest a change, we can talk. If I suggest a change you think makes no sense, let me know.... If you get why I suggest a change, but you have a better way, suggest the better way.

Take a look, and then let's regroup on how I can help, and where you are on revisions the two of you also want to make irregardless of my input.

David

Message

From: Bussard, David [Bussard.David@epa.gov]
Sent: 11/4/2016 1:57:04 PM
To: Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: FA BBDR
Attachments: plot of estimates from page r-11.pdf; Ravi Revised Main-DBcmts(5 major medium).docx; Ravi Revised Main-DBcmts(5).docx; plot of models and data for rats.pdf

Take a look.

Deliberative Process / Ex. 5

David A Bussard
Director, Washington Division
National Center for Environmental Assessment, NCEA
ORD, USEPA

Message

From: Bussard, David [Bussard.David@epa.gov]
Sent: 9/4/2015 10:11:42 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]
CC: Sonawane, Bob [Sonawane.Bob@epa.gov]
Subject: FA draft
Attachments: FormaldehydeTRdraft073015_DBCmts on DR.docx

Andrew and Barbara,

Deliberative Process / Ex. 5

I have not read the cancer text yet.

David A Bussard
Director, Washington Division
National Center for Environmental Assessment, NCEA
ORD, USEPA

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 9/22/2017 4:06:01 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

I be calling in from my home

From: Kraft, Andrew
Sent: Friday, September 22, 2017 11:43 AM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>
Subject: Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

remote from home, or from Tina's office? If you are going to be remote from Tina's office, I will probably just join you there (from previous conversations, it sounded like Tina wanted it to be remote-only). Happy Friday!

From: Glenn, Barbara
Sent: Friday, September 22, 2017 11:30 AM
To: Bahadori, Tina; Kraft, Andrew; Thayer, Kris; Lavoie, Emma; Ramasamy, Santhini; Jones, Samantha; Ross, Mary; Hagerthey, Scot
Cc: Bussard, David; D'Amico, Louis
Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

I will need to join remotely. Thanks.

From: Bahadori, Tina
Sent: Friday, September 22, 2017 11:23 AM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>
Cc: Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>
Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Deliberative Process / Ex. 5

On Monday, we were going to go in person to RRB for the briefing, although I have reserved my conference room with video connection, if you or anyone would prefer to do it remotely. I think either way is fine.

T.

From: Kraft, Andrew

Sent: Friday, September 22, 2017 11:15 AM

To: Thayer, Kris <thayer.kris@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>
Cc: Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>

Subject: Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Chatting on Monday might be tough- I have meetings stacked until 4, and Barbara is leaving to teach a class around 3. Maybe it's a break time during SAB (after our ppts)-type talk?

Also, we are all just planning on attending the briefing remotely on Monday, correct (i.e. no one is going over in person)?

From: Thayer, Kris

Sent: Friday, September 22, 2017 7:44 AM

To: Kraft, Andrew; Bahadori, Tina; Lavoie, Emma; Ramasamy, Santhini; Jones, Samantha; Ross, Mary; Hagerthey, Scot

Cc: Bussard, David; Glenn, Barbara; D'Amico, Louis

Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Let's discuss how best to respond after Monday briefing....

From: Kraft, Andrew

Sent: Friday, September 22, 2017 7:43 AM

To: Bahadori, Tina <Bahadori.Tina@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>

Cc: Bussard, David <Bussard.David@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>

Subject: Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Just forwarding this to the wider group that was asked to weigh in on the prior email. Please see below.

From: Lidka Maslankiewicz <lidka.maslankiewicz@rivm.nl>

Sent: Friday, September 22, 2017 4:54 AM

To: Kraft, Andrew

Cc: Bussard, David; D'Amico, Louis; Els Smit; Glenn, Barbara; Joke Herremans; Paul Janssen; Thayer, Kris; Theo Vermeire

Subject: Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Andrew and Barbara

Thank you for your reply, apologies for not answering sooner.

The issue is that we would like to use the data as presented in the 2010 Draft, more specifically the quantification of cancer risks for NPC (Nasopharyngeal Cancer), based either on human data and on animal data.

From your mail, we understand that the information is not to be cited as the EPA position. That was not our intention, but rather we want to include the unit risks as a scientific approach that has been developed and that we need to take on board.

Could it be possible to use the information, if we explicitly include a disclaimer? Something in line with: *"It should be noted that the methodology used for the quantification of cancer risk for NPC (Nasopharyngeal Cancer), has not been formalised and should not be seen as the official position of the EPA. From a scientific viewpoint, however, we consider this approach as valid and use unit risk to derive the Maximum Permissible Risk (MPR)."*

We also noted that in 2014 US-EPA convened a workshop (https://www.epa.gov/sites/production/files/2014-12/documents/formaldehyde_workshop_agenda_final.pdf), the topics of which were the endogenous formation of formaldehyde and its relation to formaldehyde toxicity and the mechanistic evidence for lymphohematopoietic cancer induction by formaldehyde. Any further information on these topics and on the envisaged timeline for finalization of the US-EPA IRIS evaluation would be very welcome.

April 30th to May 1st, 2014 Crystal City Marriott at ...

www.epa.gov

Luoping Zhang, University of California at Berkeley, discussant Robert Snyder, Rutgers University (retired), discussant Martha Sandy, California EPA, discussant

Maybe we can first do the exchange via mail and decide later on if a telephone conference is useful.

Kind regards

Lidka

Lidka Maslankiewicz
National Institute for Public Health and the Environment (RIVM)
Centre for Safety of Substances and Products
tel. 31 (0)30 2743160

+31 6 46 86 07 73
fax. 31 (0)30 2744401
e-mail: Lidka.Maslankiewicz@rivm.nl

From: "Kraft, Andrew" <Kraft.Andrew@epa.gov>
To: Lidka Maslankiewicz <lidka.maslankiewicz@rivm.nl>,
Cc: Els Smit <els.smit@rivm.nl>, Paul Janssen <paul.janssen@rivm.nl>, "Joke Herremans" <joke.herremans@rivm.nl>, "Glenn, Barbara" <Glenn.Barbara@epa.gov>, "D'Amico, Louis" <DAmico.Louis@epa.gov>, "Bussard, David" <Bussard.David@epa.gov>, "Thayer, Kris" <thayer.kris@epa.gov>
Date: 09/08/2017 05:21 PM
Subject: Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Hi Lidka,

Barbara (Glenn) and I are the current chemical managers of the formaldehyde assessment . We were hoping we might be able to set up a phone conversation to talk through the current status of the assessment and your questions below? If so, I can send out some type of Google poll or similar to find a time that works for everyone who might want to participate?

I would emphasize to you that the draft you mention was never finalized after it was released for the purposes of peer consultation and review. Thus, it should not be cited as an EPA position. We can explain this in greater detail when we talk.

We look forward to future conversations,
Andrew and Barbara

From: Lidka Maslankiewicz <lidka.maslankiewicz@rivm.nl>
Sent: Tuesday, August 29, 2017 7:59 AM
To: Kraft, Andrew
Cc: Els Smit; Paul Janssen; Joke Herremans
Subject: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,
My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.
We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response" (https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

IRIS Toxicological Review of Formaldehyde (Inhalation ...

cfpub.epa.gov

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

IRIS Toxicological Review of Formaldehyde (Inhalation ...

cfpub.epa.gov

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz

National Institute for Public Health and the Environment (RIVM)

Centre for Safety of Substances and Products

tel. 31 (0)30 2743160

+31 6 46 86 07 73

fax. 31 (0)30 2744401

e-mail: Lidka.Maslankiewicz@rivm.nl

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www.rivm.nl De zorg voor morgen begint vandaag

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www.rivm.nl

Dutch experts on climate change adaptation join forces. Fourteen Dutch knowledge institutes have joined forces to provide practical, demand-driven policy advice based ...

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Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 5/21/2015 3:54:18 PM
To: Barbara Glenn [Personal Matters / Ex. 6]; Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: Intro and methods
Attachments: IntroMethods_051915.docx

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 5/1/2015 9:05:00 PM
To: Barbara Glenn [Personal Matters / Ex. 6]
Subject: front section
Attachments: HCHO_FrontMatter_050115.docx

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 4/18/2017 7:28:23 PM
To: [REDACTED]; Kraft, Andrew [Kraft.Andrew@epa.gov]
CC: D'Amico, Louis [DAmico.Louis@epa.gov]
Subject: RE: Regarding the IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010)

Hello Mr. French,

I apologize for not getting back to you before now. You are correct that there is no RfC on the IRIS database for formaldehyde, and the External Review Draft from 2010 cannot be cited. In fact, the formaldehyde assessment has undergone an extensive revision since then and is not yet final.

*However, the ATSDR (Agency for Toxic Substances and Disease Registry) develops toxicity values for noncancer endpoints and has done so for formaldehyde. These are MRLs (minimum risk levels) and are directed at specified exposure durations (acute, intermediate and chronic). There also is a technical document. Here is the link.
<https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=39>

Good luck with your capstone.

Regards, Barbara Glenn

From: [REDACTED] Personal Matters / Ex. 6
Sent: Tuesday, April 11, 2017 1:08 AM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: Regarding the IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010)

Hello,

My name is Roberto French, I am a current senior undergraduate student studying Environmental Public Health at the Ohio State University. I am attempting to write, and potentially publish, a research thesis as a part of my honors final capstone experience. I am researching the non-cancer health effects of formaldehyde present in embalming fluid as it pertains to gross anatomy laboratories, this led me to trying to find an inhalation RfC for formaldehyde, which was not present on the IRIS Chemical Database. Upon doing some further research, I came across the IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010) which provided a number of potential inhalation RfCs, I have attached that same draft document to this email. As this document is a draft however, it cannot be cited, and so I'm a little stuck as to where to progress regarding finding an inhalation RfC for formaldehyde. I am emailing you to ask if there is any help you may provide me with in regards to this problem, any and all help would be greatly appreciated.

Thank you,
Roberto French

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 7/10/2017 6:16:58 PM
To: **Personal Matters / Ex. 6**
CC: Glenn, Barbara [Glenn.Barbara@epa.gov]
Subject: ML
Attachments: Formaldehyde Main Text 053017_071017.docx

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 3/16/2017 8:27:13 PM
To: Jinot, Jennifer [Jinot.Jennifer@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: RE: Formaldehyde - expedited review request
Attachments: Van Landingham_2016.pdf

Hi Jennifer,
It's fine to put them in the document in track changes.

Deliberative Process / Ex. 5

From: Jinot, Jennifer
Sent: Thursday, March 16, 2017 3:59 PM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: RE: Formaldehyde - expedited review request

Deliberative Process / Ex. 5

From: Glenn, Barbara
Sent: Tuesday, March 14, 2017 8:51 AM
To: Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>; Makris, Susan <Makris.Susan@epa.gov>; Salazar, Keith <Salazar.Keith@epa.gov>; Fritz, Jason <Fritz.Jason@epa.gov>; Bateson, Thomas <Bateson.Thomas@epa.gov>; Jinot, Jennifer <Jinot.Jennifer@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Whalan, John <Whalan.John@epa.gov>
Cc: Birchfield, Norman <Birchfield.Norman@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: Formaldehyde - expedited review request

Hello Team,
Some updates on the assessment and a [request for your expedited review](#).

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Please send an email or call if you want to discuss anything. The pace has picked up.

Regards, Barbara and Andrew

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 6/9/2015 4:32:28 PM
To: Cooper, Glinda [Cooper.Glinda@epa.gov]
Subject: RE: B4 introduction
Attachments: IntroMethods_051915.docx

I included a discussion on exposure in the introduction. Here is the intro.

-----Original Message-----

From: Cooper, Glinda
Sent: Tuesday, June 09, 2015 12:16 PM
To: Glenn, Barbara
Subject: RE: B4 introduction

Deliberative Process / Ex. 5

-----Original Message-----

From: Glenn, Barbara
Sent: Tuesday, June 09, 2015 8:44 AM
To: Cooper, Glinda
Cc: Kraft, Andrew
Subject: RE: B4 introduction

Hi Glinda,

Deliberative Process / Ex. 5

-----Original Message-----

From: Cooper, Glinda
Sent: Monday, June 08, 2015 2:33 PM
To: Glenn, Barbara
Cc: Cooper, Glinda
Subject: B4 introduction

Deliberative Process / Ex. 5

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 3/9/2017 9:12:59 PM
To: Birchfield, Norman [Birchfield.Norman@epa.gov]
Subject: FW: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel
Attachments: Letter to EPA NCEA Director on Formaldehyde IRIS - Final- 03 07 17.pdf

From: Bahadori, Tina
Sent: Thursday, March 09, 2017 4:23 AM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Cc: Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>
Subject: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Barbara and Andrew,

Deliberative Process / Ex. 5

Thanks,
Tina

From: White, Kimberly [mailto:Kimberly_White@americanchemistry.com]
Sent: Tuesday, March 7, 2017 8:16 AM
To: Bahadori, Tina <Bahadori.Tina@epa.gov>
Cc: Kavlock, Robert <Kavlock.Robert@epa.gov>
Subject: Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Dr. Bahadori:

Please find attached a letter submitted on behalf of the American Chemistry Council Formaldehyde Panel.

Kind Regards,

Kimberly Wise White, Ph.D. | American Chemistry Council
Senior Director, Chemical Products & Technology Division
Kimberly_White@americanchemistry.com
700 2nd Street NE | Washington, DC | 20002
O: (202) 249-6707 C: (202) 341-7602
www.americanchemistry.com

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result of email transmission. American Chemistry Council, 700 – 2nd Street NE, Washington, DC 20002,
www.americanchemistry.com

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 6/20/2018 6:00:09 PM
To: Soto, Vicki [Soto.Vicki@epa.gov]; 'Carter, Greg' [Greg.Carter@icf.com]
CC: Samuels, Crystal [Samuels.Crystal@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Kellar, Penelope [Penelope.Kellar@icf.com]
Subject: RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Vicki and Greg,

Yes that is correct. If it is easy to adjust column width or something else to shorten tables, please do so.

Thanks, Barbara

From: Soto, Vicki
Sent: Wednesday, June 20, 2018 1:31 PM
To: 'Carter, Greg' <Greg.Carter@icf.com>
Cc: Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>; Soto, Vicki <Soto.Vicki@epa.gov>
Subject: RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Greg – I'm so sorry for the delay. See my responses below....

Vicki

Barbara – one for you, but I think that you had asked that they close up space if possible.

From: Carter, Greg [mailto:Greg.Carter@icf.com]
Sent: Tuesday, June 19, 2018 10:51 AM
To: Soto, Vicki <Soto.Vicki@epa.gov>
Cc: Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>
Subject: RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks for this Vicki,

See below, in red, some requests for clarification.

gc

From: Soto, Vicki [mailto:Soto.Vicki@epa.gov]
Sent: Wednesday, June 13, 2018 4:43 PM
To: Carter, Greg <Greg.Carter@icf.com>
Cc: Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>
Subject: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Greg,

Attached is the work request form for Formaldehyde. Please look it over and let me know if I missed anything. Send me your "email" addresses and we will get you access to the files. I forgot to put "add line numbers" in the documents also. Format document as an Agency Review draft.

Thanks!
Vicki

Deliberative Process / Ex. 5

Vicki Soto | 202-564-3077 | soto.vicki@epa.gov
ORD/NCEA/IRISD

Mailing Address:
USEPA Headquarters | William Jefferson Clinton Building | 1200 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Delivery Address:
USEPA Headquarters | William Jefferson Clinton Building | 1300 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 11/7/2016 4:05:41 PM
To: Subramaniam, Ravi [subramaniam.ravi@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: Meeting today with Ramboll reps
Attachments: Final New Formaldehyde Science Ramboll Environ_110716_final.pdf

Hi Ravi,

You may not be back at work yet but I wanted to share with you the slides that Ken Mundt and Robinan Gentry are using during our meeting with them about their activities. The meeting is at 2 pm in rm 11100. : Personal Matters / Ex. 6 conference code: Personal Matters / Ex. 6

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 5/9/2018 1:16:14 PM
To: Lidka Maslankiewicz [lidka.maslankiewicz@rivm.nl]
Subject: RE: Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))

Here is a number

Personal Matters / Ex. 6 I'm not sure of the US code

From: Lidka Maslankiewicz [mailto:lidka.maslankiewicz@rivm.nl]
Sent: Wednesday, May 09, 2018 9:08 AM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>
Subject: RE: Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))

Or you could call +31 646860773

Lidka Maslankiewicz
National Institute for Public Health and the Environment (RIVM)
Centre for Safety of Substances and Products
Antonie van Leeuwenhoeklaan 9 | 3721 MA Bilthoven
Postbus 1 | 3720 BA Bilthoven
tel. 31 (0)30 2743160
+31 6 46 86 07 73
fax. 31 (0)30 2744401
e-mail: Lidka.Maslankiewicz@rivm.nl

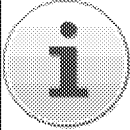
From: "Glenn, Barbara" <Glenn.Barbara@epa.gov>
To: Lidka Maslankiewicz/RIVM/NL <lidka.maslankiewicz@rivm.nl>,
Date: 05/09/2018 03:02 PM
Subject: RE: Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))

Hi Lidka,

The number you gave we are getting a message that it is not in service. Did you give me all the numbers I need to dial an international callk?

-----Original Appointment-----

From: Lidka Maslankiewicz/RIVM/NL [mailto:lidka.maslankiewicz@rivm.nl]
Sent: Monday, April 09, 2018 8:30 AM
To: Lidka Maslankiewicz/RIVM/NL; Glenn, Barbara; Kraft, Andrew; Paul Janssen/RIVM/NL; Theo Vermeire/RIVM/NL
Subject: Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))
When: Wednesday, May 09, 2018 3:00 PM-4:30 PM W. Europe.
Where:

	Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))	
	05/09/2018 -	
	No Location Information	

Lidka Maslankiewicz	has sent updated information; description has changed
Required:	glenn.barbara@epa.gov, Kraft.Andrew@epa.gov, Paul Janssen/RIVM/NL@RIVM, Theo Vermeire/RIVM/NL@RIVM

Description
<p>Agenda:</p> <ol style="list-style-type: none"> 1. Round of mutual introduction 2. Presentation of US EPA and NL ongoing activities on formaldehyde risk assessment. 3. NL questions on 2010 draft IRIS toxicological review on formaldehyde: <ul style="list-style-type: none"> • Are there any new developments in the process at EPA of evaluating formaldehyde? • Would it be possible for us to use the data and concept, with agreed referencing? • Do you plan any additional modelling to be done for deriving the unit risks from the NCI-cohort data, according to the advice from National Research Council? • Do you plan to derive unit risk derived from animal data? 4. AOB

Please, call:

+31 30 274 3160

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.
www.rivm.nl De zorg voor morgen begint vandaag

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Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 9/3/2015 7:37:24 PM
To: Gibbons, Catherine [Gibbons.Catherine@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: formaldehyde example
Attachments: FormaldehydeTRdraft073015.docx; FormaldehydeAppendixdraft_081115.docx

Hi Catherine,

Here is our TR and appendices.

Deliberative Process / Ex. 5

I hope it is helpful.

-Barbara

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 6/21/2016 4:24:19 PM
To: Bussard, David [bussard.david@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: FW: marginal comments main text (RFc)
Attachments: Formaldehyde_draft Tox Review_ERC_May2016.lk.docx

Email #2

From: Kopylev, Leonid
Sent: Thursday, June 09, 2016 3:04 PM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>
Subject: marginal comments main text (RFc)

Barbara,

Deliberative Process / Ex. 5

Hope this helps and please let me know if any of my comments are unclear.

Thanks,
Leonid

From: Glenn, Barbara
Sent: Thursday, June 09, 2016 2:11 PM
To: Kopylev, Leonid <Kopylev.Leonid@epa.gov>; Bateson, Thomas <Bateson.Thomas@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>
Subject: RE: intermediate report on non-cancer formaldehyde analyses and also comment on study tables

Hi Leonid,
Thank you very much. We appreciate your careful feedback.
-Barbara

From: Kopylev, Leonid

Sent: Thursday, June 09, 2016 11:20 AM

To: Bateson, Thomas <Bateson.Thomas@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>

Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>

Subject: intermediate report on non-cancer formaldehyde analyses and also comment on study tables

Tom:

I have reviewed documentation for the non-cancer quantitative work. There is a lot of creativity (in a good meaning of the word!) here.

Deliberative Process / Ex. 5

Barbara:

I should start with that the amount of reviewed literature is truly impressive!

Deliberative Process / Ex. 5

Hope this intermediate report helps!

Leonid

AWL till Tuesday, in office next Wednesday

From: Glenn, Barbara

Sent: Friday, June 03, 2016 2:45 PM

To: Jones, Samantha <Jones.Samantha@epa.gov>

Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Hogan, Karen <Hogan.Karen@epa.gov>; Kopylev, Leonid <Kopylev.Leonid@epa.gov>

Subject: Documentation for derivation of BMC and BMCL for formaldehyde noncancer endpoints

Hi Samantha,

I've cc'd Karen and Leonid as they will be reviewing the noncancer dose-response section for human and animal data.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Thank you for reviewing formaldehyde!

Barbara and Andrew

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 5/11/2016 7:57:18 PM
To: Jinot, Jennifer [Jinot.Jennifer@epa.gov]
CC: Bussard, David [bussard.david@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: David's comments on cancer d-r
Attachments: DBcmts(ver4) on FormaldehydeTRdraft050616.docx

Hi Jennifer,

In preparation for sending the draft assessment for review by the ERC on May 20th, **Deliberative Process / Ex. 5**

Deliberative Process / Ex. 5

I've sent the document that he reviewed. In order to get the changes into our working document, if you send this one to Andrew or me with the track changes showing, we will know what parts to paste in.

Thank you, Barbara

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 7/23/2015 9:16:01 PM
To: Bussard, David [bussard.david@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]
Subject: Formaldehyde TR with more sections
Attachments: FormaldehydeTRdraft072315.docx

Hi David,

I have added some more sections to the draft assessment. Its attached and also on the L drive

Deliberative Process / Ex. 5

It's a pretty cumbersome document.

Deliberative Process / Ex. 5

Thanks, Barbara

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 7/16/2015 5:50:57 PM
To: Sonawane, Bob [Sonawane.Bob@epa.gov]; Bussard, David [bussard.david@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: Draft Formaldehyde Hazard Section Compiled
Attachments: FormaldehydeTRdraft071615.docx

Hi David and Bob,

Deliberative Process / Ex. 5

It will be easier to move around the document if you open the navigation pane (go to "view" in the menu and click the box by navigation pane). This will reveal a list on the left of the headings in each section – like a table of contents. You can click on a heading and be taken right to it. Since the headings are not linked to the table of contents, this is blank so the navigation pane is serving as a table of contents at this point.

The formatting is not exactly standardized although I did attempt to reformat the majority of the document in the IRIS TR styles so it would not be too distracting. There is still a lot of nonIRIS TR formats in the document.

The document is also in the L drive in the formaldehyde folder under 2015 compiled. We will be continuing to revise and add to this over the next several weeks.

-Barbara and Andrew

Message

From: Chen, Anna [chen.anna@epa.gov]
Sent: 8/26/2016 7:41:22 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]
CC: Glenn, Barbara [Glenn.Barbara@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]
Subject: RE: JJV comments on formaldehyde... finally.. through page 249
Attachments: Appendices with comments 082616.docx

Here are the appendices!

Anna

From: Kraft, Andrew
Sent: Thursday, August 25, 2016 3:00 PM
To: Chen, Anna <chen.anna@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>
Subject: RE: JJV comments on formaldehyde... finally.. through page 249

Deliberative Process / Ex. 5

Thanks, Anna!

From: Chen, Anna
Sent: Thursday, August 25, 2016 2:24 PM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>
Subject: RE: JJV comments on formaldehyde... finally.. through page 249

Hi All,

Update: I have combined all of the comments, but now I am going to go through the review to ensure that they didn't get deleted during the process. This may take some time... but I will go through it to the best of my ability and send you what I have tomorrow.

One question: Deliberative Process / Ex. 5

Deliberative Process / Ex. 5 can't find where those comments should go.

Let me know if you have any more comments you want me to add/combine/merge!

From: Kraft, Andrew
Sent: Monday, August 22, 2016 11:18 AM
To: Chen, Anna <chen.anna@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Walker, Teneille <Walker.Teneille@epa.gov>
Subject: Fw: JJV comments on formaldehyde... finally.. through page 249

Hi Anna,

I hate to do this, but we just received another set of comments from John Vandenberg. It looks like he only had comments through page 250, so maybe it will be easy to integrate these comments into the compiled draft you are working with? Please let us know how you think this affects your timeline.

Thanks,
Andrew

From: Vandenberg, John
Sent: Saturday, August 20, 2016 10:02 AM
To: Kraft, Andrew; Glenn, Barbara; Bussard, David; Jones, Samantha
Subject: JJV comments on formaldehyde... finally.. through page 249

All,

I must apologize profusely for not sending the comments on the draft much earlier – like more a month ago. I hope these may still be of some value. Its clear that a terrific effort has been put into this draft, to evaluate evidence and convey information as thoroughly yet concisely, and clearly as possible.

I went back through my files to find my comments on the draft, and added some edits to clarify my first run at it, hoping I could actually finish it, but I only made it through about page 250. Sorry. I also have comments on the preface that remain handwritten and too difficult to read, even for myself, that I'll try to transpose onto the draft I have. It may be that you have a newer version of the preface that I should review instead – not sure.

I'm going on vacation as soon as my wife returns in a few minutes and I'm sending this to partially clear my conscience! I'll be back in the office on Aug 29.

John

John Vandenberg
National Program Director, Human Health Risk Assessment Program
Division Director, National Center for Environmental Assessment
U.S. Environmental Protection Agency
B243-01
Research Triangle Park, NC 27711

Message

From: Glenn, Barbara [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7A2DC9210D2D4D02A623B33F87F49436-GLENN, BARBARA]
Sent: 9/1/2015 4:31:13 PM
To: Bussard, David [Bussard.David@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]
CC: Sonawane, Bob [Sonawane.Bob@epa.gov]
Subject: RE: ADAFs and combining risks
Attachments: Formaldehyde_Cancer_DR_071913-jj2_bgAug2014.docx

This is what we have as our current version. Jennifer was not happy with some of the text which she is going to revise, but the calculations were not changed from her dec draft and it is all in there.

From: Bussard, David
Sent: Tuesday, September 01, 2015 11:51 AM
To: Glenn, Barbara; Kraft, Andrew
Cc: Sonawane, Bob
Subject: Fwd: ADAFs and combining risks

let me know if it is not in your current draft. (I can't send attachment easily from my iPhone)

David Bussard
Sent from my iPhone

Begin forwarded message:

From: "Jinot, Jennifer" <Jinot.Jennifer@epa.gov>
To: "Bussard, David" <Bussard.David@epa.gov>
Cc: "Jinot, Jennifer" <Jinot.Jennifer@epa.gov>
Subject: RE: ADAFs and combining risks

yes, actually, i had done all this in a draft i submitted back in Dec 2014. i'm not sure what's in the current working draft.

i attached my Dec 2014 draft. the relevant sections are 2.2.4.1, 2.2.4.3, and 2.2.4.4, in particular pages 2-558 to 2-559.

jj

From: Bussard, David
Sent: Tuesday, September 01, 2015 10:16 AM
To: Jinot, Jennifer
Subject: RE: ADAFs and combining risks

Thanks Jennifer,

Is that currently in the draft FA reassessment?

David

From: Jinot, Jennifer
Sent: Tuesday, September 01, 2015 10:08 AM
To: Bussard, David
Subject: RE: ADAFs and combining risks

Deliberative Process / Ex. 5

JJ

From: Bussard, David
Sent: Tuesday, September 01, 2015 8:18 AM
To: Jinot, Jennifer
Subject: ADAFs and combining risks

Jennifer,

Deliberative Process / Ex. 5

David

<FormaldehydeTRdraft071913-jj2.docx>

Message

From: Jinot, Jennifer [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D0EDF66A00054AFE84F4AB5C5119562F-JINOT, JENNIFER]
Sent: 11/16/2016 6:44:15 PM
To: Personal Matters / Ex. 6
Subject: formaldehyde paper
Attachments: Van Landingham et al. 2016.pdf

hi. if you can possibly read this paper over the next 2-3 days, i'd like to discuss it with you, ideally before this Monday. thanks. j

Message

From: Jinot, Jennifer [Jinot.Jennifer@epa.gov]
Sent: 9/1/2015 3:19:53 PM
To: Bussard, David [Bussard.David@epa.gov]
CC: Jinot, Jennifer [Jinot.Jennifer@epa.gov]
Subject: RE: ADAFs and combining risks
Attachments: FormaldehydeTRdraft071913-jj2.docx

yes, actually, i had done all this in a draft i submitted back in Dec 2014. i'm not sure what's in the current working draft. i attached my Dec 2014 draft. the relevant sections are 2.2.4.1, 2.2.4.3, and 2.2.4.4, in particular pages 2-558 to 2-559. jj

From: Bussard, David
Sent: Tuesday, September 01, 2015 10:16 AM
To: Jinot, Jennifer
Subject: RE: ADAFs and combining risks

Thanks Jennifer,

Is that currently in the draft FA reassessment?

David

From: Jinot, Jennifer
Sent: Tuesday, September 01, 2015 10:08 AM
To: Bussard, David
Subject: RE: ADAFs and combining risks

Deliberative Process / Ex. 5

From: Bussard, David
Sent: Tuesday, September 01, 2015 8:18 AM
To: Jinot, Jennifer
Subject: ADAFs and combining risks

Jennifer,

Deliberative Process / Ex. 5

David

Message

From: Glenn, Barbara [Glenn.Barbara@epa.gov]
Sent: 6/21/2016 4:24:19 PM
To: Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: FW: marginal comments main text (RFc)
Attachments: Formaldehyde_draft Tox Review_ERC_May2016.lk.docx

Email #2

From: Kopylev, Leonid
Sent: Thursday, June 09, 2016 3:04 PM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>
Subject: marginal comments main text (RFc)

Barbara,

Deliberative Process / Ex. 5

Hope this helps and please let me know if any of my comments are unclear.

Thanks,

Leonid

From: Glenn, Barbara
Sent: Thursday, June 09, 2016 2:11 PM
To: Kopylev, Leonid <Kopylev.Leonid@epa.gov>; Bateson, Thomas <Bateson.Thomas@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>
Subject: RE: intermediate report on non-cancer formaldehyde analyses and also comment on study tables

Hi Leonid,

Thank you very much. We appreciate your careful feedback.

-Barbara

From: Kopylev, Leonid

Sent: Thursday, June 09, 2016 11:20 AM

To: Bateson, Thomas <Bateson.Thomas@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>

Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>

Subject: intermediate report on non-cancer formaldehyde analyses and also comment on study tables

Tom:

I have reviewed documentation for the non-cancer quantitative work. There is a lot of creativity (in a good meaning of the word!) here.

Deliberative Process / Ex. 5

Barbara:

I should start with that the amount of reviewed literature is truly impressive!

Deliberative Process / Ex. 5

Hope this intermediate report helps!

Leonid

AWL till Tuesday, in office next Wednesday

From: Glenn, Barbara

Sent: Friday, June 03, 2016 2:45 PM

To: Jones, Samantha <Jones.Samantha@epa.gov>

Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Hogan, Karen <Hogan.Karen@epa.gov>; Kopylev, Leonid <Kopylev.Leonid@epa.gov>

Subject: Documentation for derivation of BMC and BMCL for formaldehyde noncancer endpoints

Hi Samantha,

I've cc'd Karen and Leonid as they will be reviewing the noncancer dose-response section for human and animal data.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

There are other studies with data that were modeled as well, and the documentation was included in the draft supplemental materials that was provided for ERC review.

Thank you for reviewing formaldehyde!

Barbara and Andrew

Message

From: Glenn, Barbara [Glenn.Barbara@epa.gov]
Sent: 3/14/2017 6:05:17 PM
To: Bateson, Thomas [Bateson.Thomas@epa.gov]
CC: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: FW: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel
Attachments: Letter to EPA NCEA Director on Formaldehyde IRIS - Final- 03 07 17.pdf

Here is the letter that Tina forwarded which I assume is the same as the one in Inside EPA

From: Bahadori, Tina
Sent: Thursday, March 09, 2017 4:23 AM
To: Glenn, Barbara ; Kraft, Andrew
Cc: Ross, Mary ; Jones, Samantha ; D'Amico, Louis ; Thayer, Kris ; Bussard, David ; Hagerthey, Scot
Subject: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Barbara and Andrew,

Deliberative Process / Ex. 5

Thanks,
Tina

From: White, Kimberly [mailto:Kimberly.White@americanchemistry.com]
Sent: Tuesday, March 7, 2017 8:16 AM
To: Bahadori, Tina <Bahadori.Tina@epa.gov>
Cc: Kavlock, Robert <Kavlock.Robert@epa.gov>
Subject: Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Dr. Bahadori:

Please find attached a letter submitted on behalf of the American Chemistry Council Formaldehyde Panel.

Kind Regards,

Kimberly Wise White, Ph.D. | American Chemistry Council
Senior Director, Chemical Products & Technology Division
Kimberly.White@americanchemistry.com
700 2nd Street NE | Washington, DC | 20002
O: (202) 249-6707 C: (202) 341-7602
www.americanchemistry.com

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Message

From: Kraft, Andrew [Kraft.Andrew@epa.gov]
Sent: 9/8/2017 3:36:02 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

From: Kraft, Andrew
Sent: Friday, September 8, 2017 11:31 AM
To: Bahadori, Tina
Cc: Ramasamy, Santhini; Jones, Samantha; Lavoie, Emma; Ross, Mary; Hagerthey, Scot; Glenn, Barbara
Subject: Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Deliberative Process / Ex. 5

-Andrew

From: Kraft, Andrew
Sent: Friday, September 8, 2017 11:20 AM
To: Lidka Maslankiewicz
Cc: Els Smit; Paul Janssen; Joke Herremans; Glenn, Barbara; D'Amico, Louis; Bussard, David; Thayer, Kris
Subject: Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Hi Lidka,

Barbara (Glenn) and I are the current chemical managers of the formaldehyde assessment . We were hoping we might be able to set up a phone conversation to talk through the current status of the assessment and your questions below? If so, I can send out some type of Google poll or similar to find a time that works for everyone who might want to participate?

I would emphasize to you that the draft you mention was never finalized after it was released for the purposes of peer consultation and review. Thus, it should not be cited as an EPA position. We can explain this in greater detail when we talk.

We look forward to future conversations,
Andrew and Barbara

From: Lidka Maslankiewicz <lidka.maslankiewicz@rivm.nl>
Sent: Tuesday, August 29, 2017 7:59 AM
To: Kraft, Andrew
Cc: Els Smit; Paul Janssen; Joke Herremans
Subject: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response" (https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

IRIS Toxicological Review of Formaldehyde (Inhalation ...

cfpub.epa.gov

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz

National Institute for Public Health and the Environment (RIVM)

Centre for Safety of Substances and Products

tel. 31 (0)30 2743160

+31 6 46 86 07 73

fax. 31 (0)30 2744401

e-mail: Lidka.Maslankiewicz@rivm.nl

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.

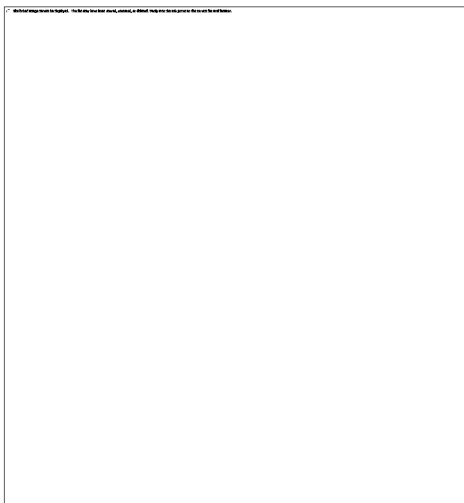
www.rivm.nl De zorg voor morgen begint vandaag

RIVM

www.rivm.nl

Dit Nederlandse overheidsinstituut verzorgt informatie, monitoring en wetenschappelijke onderbouwing van het volksgezondheidsbeleid. Ook valt het informatiecentrum ...

This message may contain information that is not intended for you. If you are not the addressee or if this message was sent to you by mistake, you are requested to inform the sender and delete the message. RIVM accepts no liability for damage of any kind resulting from the

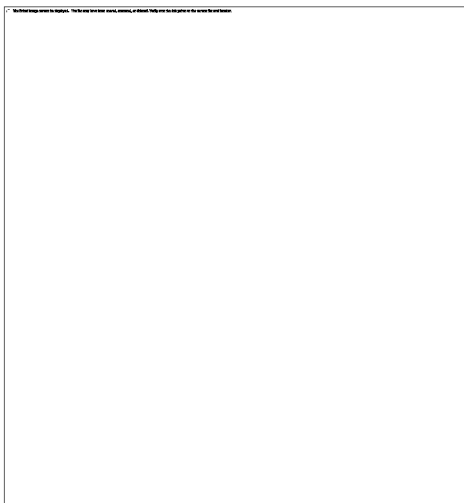


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voor
Volksgezondheid
en Milieu - RIVM

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Fourteen Dutch
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demand-driven policy
advice based ...

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www.rivm.nl De zorg voor morgen begint vandaag

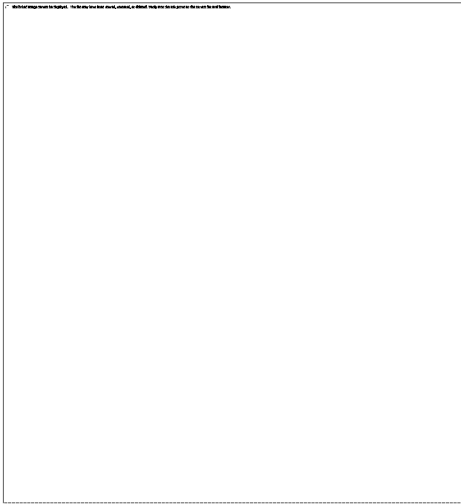


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Dit Nederlandse
overheidsinstituut
verzorgt informatie,
monitoring en
wetenschappelijke
onderbouwing van het
volksgezondheidsbeleid.
Ook valt het
informatiecentrum ...

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www.rivm.nl

Dutch experts on
climate change
adaptation join forces.
Fourteen Dutch
knowledge institutes
have joined forces to
provide practical,
demand-driven policy
advice based ...

Appointment

From: Fritz, Jason [Fritz.Jason@epa.gov]
Sent: 5/21/2015 3:58:57 PM
To: Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Caldwell, Jane [Caldwell.Jane@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]
Subject: FA LHP MOA draft markup discussion; **Personal Matters / Ex. 6** <https://epa.connectsolutions.com/tpwg/>
Attachments: Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx
Location: DCRoomPYN7771-North/ORD-NCEA-DC
Start: 5/28/2015 1:00:00 PM
End: 5/28/2015 5:00:00 PM
Show Time As: Tentative

Hello everyone,

Deliberative Process / Ex. 5

To that end, everyone please read and become familiar with the revised draft synthesis section attached, prior to the meeting. This will be conducive to a good discussion and will facilitate stepping through important aspects of each section.



Modes of action for
Lymphoma revis...

For reference, I am also attaching the Appendix which was provided by Jane to accompany this revised draft. This is FYI and may facilitate review/understanding of the MOA synthesis, but we will not be going over this section during the course of this markup meeting.



Appendix 1 lhp
moa 051515.docx

Thanks, and we look forward to a constructive discussion next week!
Jason Fritz, TPWG co-chair

Call-in and abode connect info:

Personal Matters / Ex. 6

Message

From: Kraft, Andrew [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=4A94A4F199B247778ABB02285A51B927-KRAFT, ANDREW]
Sent: 4/25/2016 9:15:01 PM
To: Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: FW: updated draft slides for Kavlock briefing
Attachments: Kavlock_Apr2016_bckgrnd.docx

From: Kraft, Andrew
Sent: Monday, April 25, 2016 5:09 PM
To: Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>
Subject: RE: updated draft slides for Kavlock briefing

Thank you, David.

Please see the attached draft background materials for Bob K.

-Barbara and Andrew

From: Bussard, David
Sent: Monday, April 25, 2016 4:28 PM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>
Subject: RE: updated draft slides for Kavlock briefing

Barbara and Andrew,

I like the revisions.

It is still potentially a lot to cover, but I think if you are clear what you want to cover if you are short on time and what you can cover if there is more time or Bob K wants to pursue a point, I think this can work.

David

From: Kraft, Andrew
Sent: Monday, April 25, 2016 4:12 PM
To: Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: updated draft slides for Kavlock briefing

Hi all,

Please see the attached revised slide deck for the Kavlock briefing this Thursday and let us know if you have any comments.

Deliberative Process / Ex. 5

Thanks!

-Barbara and Andrew

Message

From: Kraft, Andrew [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=4A94A4F199B247778ABB02285A51B927-KRAFT, ANDREW]
Sent: 3/9/2017 9:03:46 PM
To: Birchfield, Norman [Birchfield.Norman@epa.gov]
Subject: FW: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel
Attachments: Letter to EPA NCEA Director on Formaldehyde IRIS - Final- 03 07 17.pdf

From: Bahadori, Tina
Sent: Thursday, March 09, 2017 4:23 AM
To: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Cc: Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>
Subject: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Barbara and Andrew,

Deliberative Process / Ex. 5

Thanks,
Tina

From: White, Kimberly [mailto:Kimberly_White@americanchemistry.com]
Sent: Tuesday, March 7, 2017 8:16 AM
To: Bahadori, Tina <Bahadori.Tina@epa.gov>
Cc: Kavlock, Robert <Kavlock.Robert@epa.gov>
Subject: Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Dr. Bahadori:

Please find attached a letter submitted on behalf of the American Chemistry Council Formaldehyde Panel.

Kind Regards,

Kimberly Wise White, Ph.D. | American Chemistry Council
Senior Director, Chemical Products & Technology Division
Kimberly_White@americanchemistry.com
700 2nd Street NE | Washington, DC | 20002
O: (202) 249-6707 C: (202) 341-7602
www.americanchemistry.com

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Message

From: Kraft, Andrew [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=4A94A4F199B247778ABB02285A51B927-KRAFT, ANDREW]
Sent: 12/22/2015 10:50:06 PM
To: Sonawane, Bob [sonawane.bob@epa.gov]; Bussard, David [bussard.david@epa.gov]
CC: Glenn, Barbara [glenn.barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]
Subject: Hazard Draft
Attachments: FormaldehydeTRdraft12215.docx; FormaldehydeAppendixdraft_122215.docx

Hi Bob and David,

Please find the attached (incomplete) hazard draft.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

in most

instances) we included it for your review anyway.

As this represents a work in progress, there are comment bubbles and formatting indications throughout.

I am also attaching a more preliminary draft of the Appendix materials, which is less ready for review.

Bob already has the most recent copy of the Response to Comments document, which we shared a week or two ago.

Enjoy! Happy holidays to you and your families, and see you next year (the latter from Andrew only, as Barbara will be here next week).

-Barbara and Andrew

Message

From: Ravi S. [Ex. 6 - Personal Privacy]@gmail.com]
Sent: 6/14/2018 2:47:03 AM
To: Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: files
Attachments: Formaldehyde Main Text 102417 06-13-18.docx; final edits main.docx

--Ravi.

Message

From: Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]
Sent: 7/9/2016 3:33:44 AM
To: Jones, Samantha [Jones.Samantha@epa.gov]
CC: Lee, Janice [Lee.JaniceS@epa.gov]; Hotchkiss, Andrew [Hotchkiss.Andrew@epa.gov]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: Re: Formaldehyde review comments and discussion meeting
Attachments: Formaldehyde XA JL comments.docx; Formaldehyde_draft TR_ERC_May 2016_XA JL.pdf

Hello Samantha,

Thank you for the opportunity to review the draft IRIS Toxicological Review of Formaldehyde. Janice and I reviewed the MOA sections for non-cancer effects. Our comments are attached to this e-mail. Please let us know if you have any question. Have a nice weekend!

Xabier

From: Jones, Samantha
Sent: Wednesday, June 29, 2016 5:19 PM
To: Gibbons, Catherine; Patel, Molini; Hazari, Mehdi; Lehmann, Geniece; Wright, Michael; Hotchkiss, Andrew; Walker, Teneille; Arzuaga, Xabier; Lee, Janice; White, Paul; Kopylev, Leonid; Davis, Allen; Hogan, Karen; Jarabek, Annie
Cc: Flowers, Lynn; Vandenberg, John; Cogliano, Vincent; Kraft, Andrew; Glenn, Barbara; Birchfield, Norman
Subject: Formaldehyde review comments and discussion meeting

Hi all,

First thank you all for agreeing to participate in this important review step for NCEA. It is greatly appreciated. For those of you in the "to" line in this email, you may recall that the deadline for comments is July 8th. I am in the process of scheduling a discussion meeting so that you all can walk through your major comments with the larger group and the assessment team. Given the number of sections and individual reviewers (see table below), I will likely schedule two meetings grouping reviewers/sections as appropriate. Be on the lookout for meeting invites in the near future.

Please note that prior to contacting each of you, we brought in three primary reviewers (Lynn Flowers, John Vandenberg, and Vince Cogliano) to review the overall assessment. We will be hosting a meeting for them to discuss their comments on Tuesday, July 12th from 9:00am to 10:30am. If you would like to sit in as an observer, please let me know.

Thanks again for your commitment and assistance in moving this assessment forward!

Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Message

From: Jones, Samantha [Jones.Samantha@epa.gov]
Sent: 6/13/2016 2:44:52 PM
To: Walker, Teneille [Walker.Teneille@epa.gov]
CC: Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: Formaldehyde: NCEA Executive Review Committee
Attachments: Formaldehyde_draft Appendices_ERC_May2016.docx; Formaldehyde_draft Tox Review_ERC_May2016.docx; Formaldehyde_Issues raised for ERC Issues_May2016.docx

Hi Teneille,

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Although the draft assessment (attached) does not include a table of contents, you can go to the "View" table and select "Navigation Pane" and you can maneuver through the assessment that way.

The comment deadline is Friday, July 8th. We will have a meeting to discuss major issues/comments with the larger group soon after that.

Let me know if you have any concerns.

Thanks,
Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

From: Jones, Samantha
Sent: Tuesday, May 24, 2016 8:28 PM
To: Olden, Kenneth <Olden.Kenneth@epa.gov>; Vandenberg, John <Vandenberg.John@epa.gov>; Lynn Flowers <Flowers.Lynn@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Walsh, Debra <Walsh.Debra@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Susan Rieth <Rieth.Susan@epa.gov>; Andrew Hotchkiss <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <subramaniam.ravi@epa.gov>; Stanek, John <Stanek.John@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Hawkins, Belinda <Hawkins.Belinda@epa.gov>; Johnson, Craig <Johnson.Craig@epa.gov>; Gatchett, Annette <Gatchett.Annette@epa.gov>; Ted Berner <Berner.Ted@epa.gov>; D'Amico, Louis <damico.louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; White, Paul <White.Paul@epa.gov>
Subject: Formaldehyde: ERC Review

Hello all,

Deliberative Process / Ex. 5

Attached are clean drafts of the toxicological review and supplemental information (i.e., appendices). Please note that these documents have not yet undergone tech edit, and all of the callouts to tables, figures, and other sections are not included. Additionally, while these documents are clean (i.e., no track changes), there are a few comment bubbles

remaining to note some items the team is still working to address. The other attachment details several topics raised for ERC review; these are briefly highlighted below. **Comments are due by June 22nd**; please cc' all on this email with comments. An ERC meeting will be scheduled for shortly after the 22nd.

Highlighted topics covering assessment approaches for ERC reviewers to consider

Deliberative Process / Ex. 5

Thanks,
Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

Message

From: Jones, Samantha [Jones.Samantha@epa.gov]
Sent: 6/13/2016 2:12:52 PM
To: Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]
CC: Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: Formaldehyde: NCEA Executive Review Committee
Attachments: Formaldehyde_draft Appendices_ERC_May2016.docx; Formaldehyde_draft Tox Review_ERC_May2016.docx; Formaldehyde_Issues raised for ERC Issues_May2016.docx

Hi Xabier,

Deliberative Process / Ex. 5

The comment deadline is Friday, July 8th. We will have a meeting to discuss major issues/comments with the larger group soon after that.

Let me know if you have any concerns.

Thanks,
Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

From: Jones, Samantha
Sent: Tuesday, May 24, 2016 8:28 PM
To: Olden, Kenneth <Olden.Kenneth@epa.gov>; Vandenberg, John <Vandenberg.John@epa.gov>; Lynn Flowers <Flowers.Lynn@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Walsh, Debra <Walsh.Debra@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Susan Rieth <Rieth.Susan@epa.gov>; Andrew Hotchkiss <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <subramaniam.ravi@epa.gov>; Stanek, John <Stanek.John@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Hawkins, Belinda <Hawkins.Belinda@epa.gov>; Johnson, Craig <Johnson.Craig@epa.gov>; Gatchett, Annette <Gatchett.Annette@epa.gov>; Ted Berner <Berner.Ted@epa.gov>; D'Amico, Louis <damico.louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; White, Paul <White.Paul@epa.gov>
Subject: Formaldehyde: ERC Review

Hello all,

Deliberative Process / Ex. 5

Attached are clean drafts of the toxicological review and supplemental information (i.e., appendices). Please note that these documents have not yet undergone tech edit, and all of the callouts to tables, figures, and other sections are not included. Additionally, while these documents are clean (i.e., no track changes), there are a few comment bubbles remaining to note some items the team is still working to address. The other attachment details several topics raised for

ERC review; these are briefly highlighted below. **Comments are due by June 22nd**; please cc' all on this email with comments. An ERC meeting will be scheduled for shortly after the 22nd.

Highlighted topics covering assessment approaches for ERC reviewers to consider

Deliberative Process / Ex. 5

Thanks,
Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

Message

From: Jones, Samantha [Jones.Samantha@epa.gov]
Sent: 5/25/2016 12:59:04 AM
To: Newhouse, Kathleen [Newhouse.Kathleen@epa.gov]
CC: Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: Formaldehyde: NCEA Executive Review Committee
Attachments: Formaldehyde_draft Appendices_ERC_May2016.docx; Formaldehyde_draft Tox Review_ERC_May2016.docx; Formaldehyde_Issues raised for ERC Issues_May2016.docx

Hi Kathleen,

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

we are asking you to set aside some time to conduct this review. Let me know if you have any concerns.

Thanks,
Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

From: Jones, Samantha
Sent: Tuesday, May 24, 2016 8:28 PM
To: Olden, Kenneth <Olden.Kenneth@epa.gov>; Vandenberg, John <Vandenberg.John@epa.gov>; Lynn Flowers <Flowers.Lynn@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Walsh, Debra <Walsh.Debra@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Susan Rieth <Rieth.Susan@epa.gov>; Andrew Hotchkiss <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <subramaniam.ravi@epa.gov>; Stanek, John <Stanek.John@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Hawkins, Belinda <Hawkins.Belinda@epa.gov>; Johnson, Craig <Johnson.Craig@epa.gov>; Gatchett, Annette <Gatchett.Annette@epa.gov>; Ted Berner <Berner.Ted@epa.gov>; D'Amico, Louis <damico.louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; White, Paul <White.Paul@epa.gov>
Subject: Formaldehyde: ERC Review

Hello all,

Deliberative Process / Ex. 5

Attached are clean drafts of the toxicological review and supplemental information (i.e., appendices). Please note that these documents have not yet undergone tech edit, and all of the callouts to tables, figures, and other sections are not included. Additionally, while these documents are clean (i.e., no track changes), there are a few comment bubbles remaining to note some items the team is still working to address. The other attachment details several topics raised for ERC review; these are briefly highlighted below. **Comments are due by June 22nd**; please cc' all on this email with comments. An ERC meeting will be scheduled for shortly after the 22nd.

Highlighted topics covering assessment approaches for ERC reviewers to consider

Deliberative Process / Ex. 5

Thanks,
Samantha

Samantha J. Jones, Ph.D
Acting Associate Director for Health, ORD/NCEA
Phone: (703) 347-8580

Message

From: Ravi S. [Ex. 6 - Personal Privacy]@gmail.com]
Sent: 1/11/2017 3:13:39 AM
To: Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: files 1-10-17 pm
Attachments: bussard-Vince comments.01-08-17.docx; Main SCC d-r- 1-8-17.docx

--Ravi.

Message

From: Ravi S. [Ex. 6 - Personal Privacy]@gmail.com]
Sent: 1/9/2017 2:21:37 AM
To: Ravi Subramaniam [Ex. 6 - Personal Privacy]@gmail.com]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: files pm
Attachments: Main SCC d-r- 1-4-17.docx; bussard-Vince comments.01-05-17.docx

--Ravi.

Message

From: Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]
Sent: 6/23/2016 7:39:11 PM
To: Lee, Janice [Lee.JaniceS@epa.gov]
CC: Hotchkiss, Andrew [Hotchkiss.Andrew@epa.gov]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]
Subject: RE: Formaldehyde review
Attachments: Formaldehyde_draft TR_ERC_May 2016_XA JL.pdf; Formaldehyde XA comments.docx

Hi Janice,

I hope you are enjoying the meeting and that your talk goes well.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5 I am attaching my notes to this e-mail. Please let me know when it would be most convenient for you to meet and discuss our review and next steps. Cheers!

Xabier

From: Arzuaga, Xabier
Sent: Monday, June 20, 2016 3:48 PM
To: Lee, Janice <Lee.JaniceS@epa.gov>
Cc: Hotchkiss, Andrew <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>
Subject: Formaldehyde review

Hi Janice,

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Most of my comments are on minor changes. One issue that I am finding is that the authors of this section did not cite much and it is difficult to find which study reported what on the tables. I hope to finish by tomorrow or Wednesday. Thanks!

Xabier

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

Message

From: Subramaniam, Ravi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E738F9D27062486E9047184B867FD968-SUBRAMANIAM, RAVI]
Sent: 1/4/2017 8:51:48 PM
To: Ravi S. [Ex. 6 - Personal Privacy]@gmail.com]
Subject: formaldehyde
Attachments: Main SCC d-r- 1-4-17.docx; Human Model Report_3.doc

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

Message

From: Kraft, Andrew [Kraft.Andrew@epa.gov]
Sent: 11/30/2017 2:33:10 PM
To: Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]; Bussard, David [Bussard.David@epa.gov]
CC: Glenn, Barbara [Glenn.Barbara@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]
Subject: RE: Hot off the press on Endogenous Formaldehyde
Attachments: formaldehyde_assessment overview_IOAAreview_102617rssvedits.docx; Formaldehyde Main Text 102417rssvEdits.docx

Hi Ravi, good question. It is just too problematic at this point for you to be working in the master versions (on Sharepoint) that Barbara and I are working on.

So, I have attached here a current copy of the main draft and overview documents. Please crosswalk any changes across both documents, and let us know if you also need to make changes to the Appendices (which you can probably work on directly in Sharepoint, as we are not yet working on them).

Since it sounds like you will be working on making changes before Sury, we would prefer if you could make your edits in track changes and then send the docs to Sury, who can then send the docs back to us (or something similar).

Thanks!

From: Subramaniam, Ravi
Sent: Thursday, November 30, 2017 9:09 AM
To: Kraft, Andrew <Kraft.Andrew@epa.gov>; Bussard, David <Bussard.David@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>
Subject: RE: Hot off the press on Endogenous Formaldehyde

I have set aside some time this morning for formaldehyde, and will add this to my agenda. However, Ex. 5 - Deliberative Process Someone else, Sury perhaps?, needs to add, if necessary, elsewhere.

Andrew, how should I do this (and the other edits I have promised)? Directly, or send you the blurb separately?

-

Ravi.

Ravi Subramaniam
RRB 51237/ (202) 564-2445 (o), (571) 305-3601 (m)

From: Kraft, Andrew
Sent: Thursday, November 30, 2017 7:56 AM
To: Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Bussard, David <Bussard.David@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>
Subject: RE: Hot off the press on Endogenous Formaldehyde

So, Ex. 5 - Deliberative Process

Thanks for sharing, Sury!

From: Subramaniam, Ravi
Sent: Thursday, November 30, 2017 7:26 AM
To: Bussard, David <Bussard.David@epa.gov>
Cc: Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
Subject: Re: Hot off the press on Endogenous Formaldehyde

Yes. We have made this point that Sury makes that

When our repair systems don't work for some reason, any endogenous chemical can cause a risk, but the reference and elaboration he gives would help buttress the point. Good!

--Ravi.

Ravi Subramaniam, Ph.D.
Chief, Toxic Effects Branch, IRIS, NCEA, EPA
RRB 51237/ (202) 564-2445 (O) / (571) 305-3601 (m)

On Nov 30, 2017, at 7:04 AM, Bussard, David <Bussard.David@epa.gov> wrote:

Ravi

This new work -

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

David Bussard

Begin forwarded message:

From: "Vulimiri, Suryanarayana" <Vulimiri.Sury@epa.gov>
Date: November 29, 2017 at 5:39:41 PM EST
To: "Bussard, David" <Bussard.David@epa.gov>
Subject: RE: Hot off the press on Endogenous Formaldehyde

David, that is the question I have. It needs some collective thinking into it. Here are some preliminary thoughts.

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Sury

Sury Vulimiri, Ph.D., DABT National Center for Environmental Assessment, Office of Research & Development, US EPA. Phone: 919-541-3558 | Fax: 919-541-0245 | vulimiri.sury@epa.gov

From: Bussard, David
Sent: Wednesday, November 29, 2017 5:06 PM
To: Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>
Subject: RE: Hot off the press on Endogenous Formaldehyde

Thanks Sury

What do you think this means for the role of endogenous formaldehyde in assessing the risk of inhaled formaldehyde?

David

From: Vulimiri, Suryanarayana
Sent: Wednesday, November 29, 2017 4:43 PM
To: Bateson, Thomas <Bateson.Thomas@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Fritz, Jason <Fritz.Jason@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Makris, Susan <Makris.Susan@epa.gov>; Segal, Deborah <Segal.Deborah@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>; Whalan, John <Whalan.John@epa.gov>
Cc: Bussard, David <Bussard.David@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>
Subject: Hot off the press on Endogenous Formaldehyde

Nature. 2017 Aug 31;548(7669):549-554. doi: 10.1038/nature23481. Epub 2017 Aug 16.

Mammals divert endogenous genotoxic formaldehyde into one-carbon metabolism.

Burgos-Barragan G¹, Wit N¹, Meiser J², Dingler FA¹, Pietzke M², Mulderrig L¹, Pontel LB¹, Rosado IV³, Brewer TF⁴, Cordell RL⁵, Monks PS⁶, Chang CJ¹, Vazquez A², Patel KJ^{1,6}.

Author information

1

MRC Laboratory of Molecular Biology, Francis Crick Avenue, Cambridge CB2 0QH, UK.

2

Cancer Research UK Beatson Institute, Glasgow G61 1BD, UK.

3

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4

Department of Chemistry, Department of Molecular and Cell Biology, and Howard Hughes Medical Institute, University of California, Berkeley, Berkeley, California 94720, USA.

5

Department of Chemistry, University of Leicester, Leicester LE1 7RH, UK.

6

University of Cambridge, Department of Medicine, Addenbrooke's Hospital, Cambridge CB2 2QQ, UK.

Abstract

The folate-driven one-carbon (1C) cycle is a fundamental metabolic hub in cells that enables the synthesis of nucleotides and amino acids and epigenetic modifications. This cycle might also release formaldehyde, a potent protein and DNA crosslinking agent that organisms produce in substantial quantities. Here we show that supplementation with tetrahydrofolate, the essential cofactor of this cycle, and other oxidation-prone folate derivatives kills human, mouse and chicken cells that cannot detoxify formaldehyde or that lack DNA crosslink repair. Notably, formaldehyde is generated from oxidative decomposition of the folate backbone. Furthermore, we find that formaldehyde detoxification in human cells generates formate, and thereby promotes nucleotide synthesis. This supply of 1C units is sufficient to sustain the growth of cells that are unable to use serine, which is the predominant source of 1C units. These findings identify an unexpected source of formaldehyde and, more generally, indicate that the detoxification of this ubiquitous endogenous genotoxin creates a benign 1C unit that can sustain essential metabolism.

PMID:

28813411

DOI:

[10.1038/nature23481](https://doi.org/10.1038/nature23481)

<< File: Burgos-Barragan et al 2017_EndogenousFA.pdf >> << File: Pontel et al 2015_SV.pdf >>

So the bottom line is that endogenous formaldehyde is safely handled by the cells diverting it into normal cellular metabolism. This is published in Nature (PDF attached).

Ex. 5 - Deliberative Process

One of the co-authors is Pontel, who published earlier an article titled "*Endogenous formaldehyde is a hematopoietic stem cell genotoxin and metabolic carcinogen*" in the Journal 'Molecular Cell' on which Dr. Swenberg is a co-author.

Sury

Sury Vulimiri, Ph.D., DABT National Center for Environmental Assessment, Office of Research & Development, US EPA. Phone: 919-541-3558 | Fax: 919-541-0245 | vulimiri.sury@epa.gov

Message

From: Sonawane, Bob [Sonawane.Bob@epa.gov]
Sent: 1/4/2016 8:13:37 PM
To: Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]
Subject: FW: Hazard Draft
Attachments: FormaldehydeTRdraft12215.docx; FormaldehydeAppendixdraft_122215.docx

From: Kraft, Andrew
Sent: Tuesday, December 22, 2015 5:50 PM
To: Sonawane, Bob <Sonawane.Bob@epa.gov>; Bussard, David <Bussard.David@epa.gov>
Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>
Subject: Hazard Draft

Hi Bob and David,

Please find the attached (incomplete) hazard draft.

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

(in most instances) we included it for your review anyway.

As this represents a work in progress, there are comment bubbles and formatting indications throughout.

I am also attaching a more preliminary draft of the Appendix materials, which is less ready for review.

Bob already has the most recent copy of the Response to Comments document, which we shared a week or two ago.

Enjoy! Happy holidays to you and your families, and see you next year (the latter from Andrew only, as Barbara will be here next week).

-Barbara and Andrew